

**WISCONSIN ENDANGERED RESOURCES REPORT #133
STATUS OF THE AMERICAN MARTEN IN WISCONSIN
PERFORMANCE REPORT, 1 JULY 2005 THROUGH 30 JUNE 2006
By Adrian P. Wydeven, Jane E. Wiedenhoeft, and James E. Woodford**

SUMMARY

A total of 12 American marten were detected along 117.4 miles of survey in the Nicolet National Forest. No track surveys were conducted in the Chequamegon Forest this year. Detection rate for marten in 79.0 miles in the Marten Restoration Area of the Nicolet was 12.7 per 100 miles. Additional research and monitoring of marten was done by several agencies, with trapping and radio telemetry being completed in both study areas. A second year of a hair trap study with genetic testing of samples showed marten to live in areas previously determined by track surveys. Work was done on a draft of a new marten management plan for the state.

**BUREAU OF ENDANGERED RESOURCES
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707
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**STATUS OF THE AMERICAN MARTEN
PERFORMANCE REPORT**

July 1, 2005 - June 30, 2006

Prepared by Adrian P. Wydeven, Jane E. Wiedenhoef and James E. Woodford

Job 106.2.1 Monitor Population
Job 106.2.2 Determine Recovery Levels
Job 106.2.3 Enhance Population
Job 106.2.4 Communications

Background:

Background: American marten (*Martes americana*), also known as pine marten, were listed as state endangered in 1972. From 1975-1983, 172 marten were released in northern Forest County in the Nicolet National Forest of northeast Wisconsin. From 1987-1990, 139 marten were reintroduced into the Clam Lake area of Ashland County in the Chequamegon National Forest in northwest Wisconsin. Marten were released into Fisher Management Units, where fishers (*Martes pennanti*) were reintroduced in the 1950's and the 1960's. These management units were closed to all terrestrial trapping of furbearers and have been re-designated as Marten Restoration Areas (MRA). The MRA's cover 344 mi² in the Clam Lake area of northwest Wisconsin and 188 mi² in northeast Wisconsin. Standardized track surveys were initiated in 1987 in the Nicolet National Forest and in 1991 in the Chequamegon National Forest.

A recovery plan was developed for the American (pine) marten in Wisconsin in 1986. The 4 jobs listed in this report represent main strategies for recovering marten populations in Wisconsin. This report covers recovery activities conducted from 1 July 2005 through 30 June 2006.

JOB 106.2.1 MONITOR POPULATION

Three routes of about 25-30 miles each were established in the two MRA's. Plus two additional routes have been run in the Nicolet location, and a new route was established in the Chequamegon site during the 2003-2004 study period. Routes were followed slowly with four-wheel drive vehicles more than 8 and less than 24 hours after a fresh snowfall (Ashbrenner 1994). Tracks of individual marten, other carnivores and porcupines were recorded along each route.

Additional monitoring/ research activity on American marten included live-trapping/radio tracking studies in the Nicolet National Forest by the Wisconsin DNR and University of Wisconsin - Stevens Point (Woodford et al. 2005), radio-telemetry monitoring by Great Lakes

Indian Fish and Wildlife Commission of martens north of Clam Lake (Gilbert et al. 2003), and interagency study of marten distribution using hair traps and genetic sampling.

Results and Discussion

Twelve marten were detected along 117.4 miles surveyed in the Nicolet National Forest (Table 1). A total of 10 marten were detected along 3 routes in the MRA, covering 79.0 miles, or a rate of 12.7 marten per 100 miles. Detection rate along the 38.4 miles driven outside the MRA was 5.2 per 100 miles, but actually marten were detected only on a 6.7 mile route that was located directly north of the MRA. Within the MRA, marten rate of detection was about half the rate observed in recent years. Ratio of fisher detection to marten was 3:1 in the MRA. Detection rates for fisher, coyote, and bobcat in the Nicolet were lower than recent years

No surveys were conducted in the Chequamegon National Forest. Marten were detected in 3 locations in the Great Divide District during other carnivore surveys. Data from previous years are shown in table 2.

Ongoing research on marten continued to be done by the Great Lakes Indian Fish and Wildlife Commission and the Forest Service on marten ecology in portions of the MRA in the Chequamegon National Forest (Gilbert et al. 2003).

In winter 2005-2006, GLIFWC, USFS, DNR and Michigan State University cooperated in a second year study of marten hair snares to test for marten presence using DNA analysis across extensive areas of northern Wisconsin, including the Chequamegon-Nicolet National Forest (Williams and Scribner 2006). Along 22 transects sampled, marten DNA was found along 2 routes within known marten range. This technique has promise in better documenting distribution of martens in the state.

DNR and University of Wisconsin-Stevens Point also cooperated on a research project on marten in northeast Wisconsin, including live-capture, radio tracking, and assessment of dispersal habitat. In fall 2004 and 2005, 39 marten were captured and 32 were fitted with radio collars (Woodford et al 2005). A preliminary population estimation for the MRA in the Nicolet National Forest was 221 +/- 61 martens (Woodford et al. 2005).

JOB 106.2.2 DETERMINE RECOVERY LEVELS

A draft update of a marten recovery and management plan was developed by Harvey (2005). Although little work was done on the plan update during the study period, data gathering for incorporation into the marten plan continued.

During the study period the chair of the State Marten Committee was turned over to Woodford, from Wydeven because Woodford was able to more fully commit to marten conservation activities. A meeting was held on 18 January to plan winter hair snare surveys, but a regular marten committee meeting was not held during the study period.

JOB 106.2.3 ENHANCE POPULATION

Need for future enhancement of marten populations continued to be an issue discussed by marten workers. Ongoing research suggests that the two populations continue to be somewhat fragile, and additional stocking may be desirable in the future.

JOB 106.2.4 COMMUNICATION

American marten survey information was published in the Wisconsin Wildlife Surveys (Wiedenhoeft and Wydeven, 2005). Progress of research on marten status in the Nicolet National Forest was reported by Woodford et al. (2005). Marten status was discussed in 3 talks to 110 volunteer trackers, and a presentation to 10 students at the University of Wisconsin - Stevens Point.

Acknowledgement

Persons assisting on marten surveys included Pat Coffen, Linda Winn, Bob Dall, Bruce Kohn, Tony Rinaldi and others. Federal Pittman-Robertson funds and Wisconsin Endangered Resources funds were used to support marten survey work. Other marten survey work was done by Jon Gilbert, Dan Eklund, Pat Zollner, Tim White, Kevin Russell, Bronwyn Williams, Kim Scribner, and other employees of the Great Lakes Indian Fish and Wildlife Commission, U.S. Forest Service, Wisconsin DNR, and Menominee Conservation Department.

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Table 1. *Mammal track observations along marten survey routes in the Nicolet National Forest, winter 2005-2006.*

Date	Route No.	Snow Depth (in)	Miles Run	Number of Tracks Observed				
				Marten	Fisher	Coyote	Bobcat	Other
01/06/06	1	10"	29.2	3	6	17	0	4 Otter 1 Fox 4 Porcupine 2 Raccoon
01/06/06	2	10"	21.4	5	7	13	1	1 Otter 1 Wolf 2 Porcupine
01/10/06	3	10"	28.4	2	8	12	1	1 Wolf 1 Porcupine
01/18/06	4	10"	29.2	0	9	13	1	4 Otter 2 Wolf 1 Bear 2 Porcupine
02/03/06	6A	NA	2.5	0	2	2	0	
02/03/06	6B	NA	6.7	2	4	4	0	
Totals			117.4	12	36	61	3	9 Otter 1 Fox 4 Wolf 1 Bear 9 Porcupine 2 Raccoon
Rate per 100 mi (1-3)			(79.0)	12.7	26.6	53.2	2.5	6.3 Otter 1.3 Fox 2.5 Wolf 8.9 Porcupine 2.5 Raccoon

Table 1. Continued.

Date	Miles Run	Number of Tracks Observed				
		Marten	Fisher	Coyote	Bobcat	Other
2004- 2005	(81.2)	19.7	56.7	82.5	12.3	4.9 Mink 13.5 Otter 6.2 Weasel 6.2 Dog 8.6 Fox 4.9 Wolf 6.2 Porcupine 2.5 Raccoon
2003- 2004	(81.1)	24.7	45.6	49.3	8.6	4.9 Otter 12.3 Dog 2.5 Fox 2.5 Porcupine 1.2 Raccoon
2002- 2003	(79.5)	11.3	71.7	65.4	7.5	5.0 Otter 1.3 Dog 7.5 Fox 2.5 Wolf 2.5 Porcupine
2001- 2002	(123.4)	11.3	51.9	77.0	12.2	2.4 Otter 3.2 Dog 10.5 Fox 4.9 Porcupine
2000- 2001	(79.1)	25.3	58.2	49.3	8.8	1.3 Otter 7.6 Fox 3.8 Porcupine
1999- 2000	(80.9)	12.4	23.5	32.1	2.5	4.9 Otter 1.2 Dog 3.7 Fox 3.7 Porcupine
1998- 1999	(79.4)	23.9	27.7	27.7	5.0	6.3 Otter 3.8 Fox
1997- 1998	(84.1)	11.9	26.2	41.6	2.4	3.6 Otter 2.4 Fox 3.6 Porcupine
1996- 1997	(76.2)	13.8	37.9	36.8	5.7	2.3 Otter 4.6 Fox 2.3 Porcupine

Table 2. Mammal track observations along marten survey routes near Clam Lake in the Chequamegon National Forest, winter 1996-2006.

Winter	Routes	Miles Run	Rate per 100 mi.				
			Marten	Fisher	Coyote	Bobcat	Other
2005-2006	None						
2004-2005	None						
2003-2004	1-2	51.2	13.7	43.0	21.5	7.8	9.8 Otter 33.2 Fox 17.6 Wolf 3.9 Porcupine
2002-2003	1	59.7	1.7	13.4	16.8	5.0	13.4 Otter 6.7 Fox 3.4 Wolf 1.7 Porcupine
2001-2002	2-3	45.2	11.1	48.7	13.3	11.1	2.2 Dog 35.4 Fox 28.8 Wolf 2.2 Porcupine
2000-2001	1 & 3	94.4	19.1 (10.2)	59.6	11.7	6.4	6.4 Mink 1.1 Badger 8.5 Otter 19.1 Fox 21.3 Wolf 1.1 Porcupine
1999-2000	1-3	58.3	20.6	70.3	41.2	12.0	3.4 Mink 18.9 Otter 5.1 Dog 22.3 Fox 8.6 Wolf 3.4 Porcupine
1998-1999	None						
1997-1998	1-3	72.6	9.7	41.4	17.2	1.4	2.8 Dog 30.4 Fox 9.7 Wolf 1.4 Porcupine
1996-1997	1-3	76.2	17.1	56.4	10.5	2.6	1.4 Otter 23.2 Fox 7.1 Wolf 2.8 Porcupine

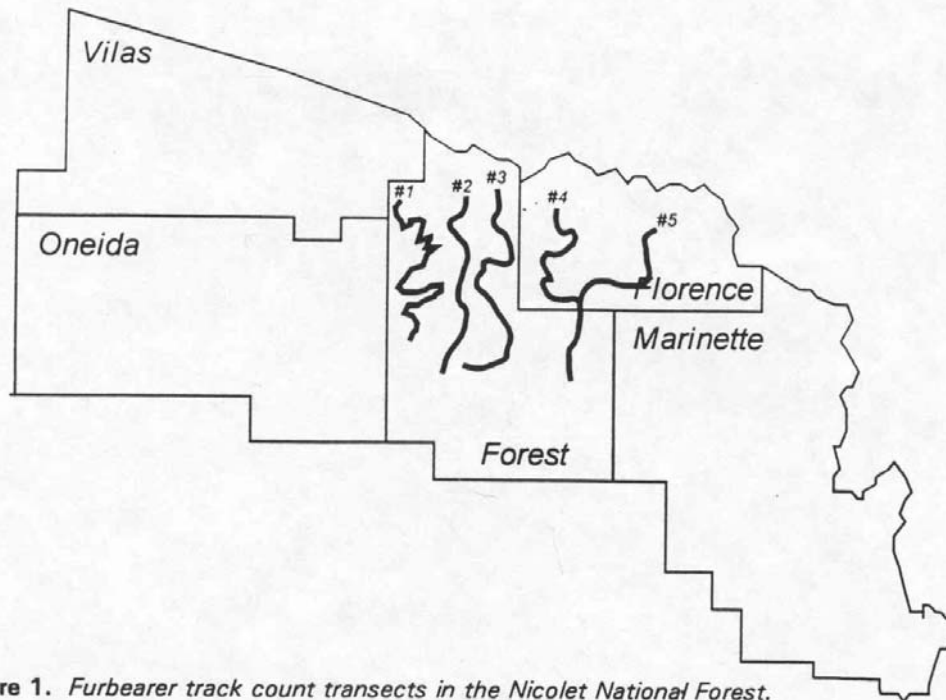


Figure 1. *Furbearer track count transects in the Nicolet National Forest.*

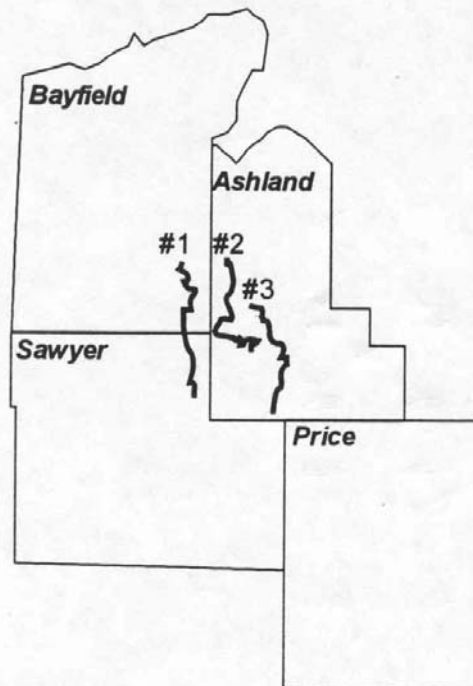


Figure 2. *Furbearer track count transects in the Chequamegon National Forest.*



Figure 3. Core range of American marten in Wisconsin, 2000-2004 (from Woodford 2005).